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AN INQUIRY INTO THE STATISTICS OF OPERATIVE MIDWIFERY IN NORWAY, FOR THE PERIOD FROM 1853 TO 1863.

(Continued from page 167.)

WHILE it is well known that in Norway such abnormities of the female pelvis as place grave mechanical difficulties in the way of parturition, are comparatively rare, nevertheless defects of this sort do occur now and then. But data are wanting to establish the fact of these malformations being more common in some parts of the country than in others. The belief has been expressed that such differences exist, for example in the case of the districts Lister and Mandal,* and Romsdal.† In both districts, and especially in the first, obstetric operations are practised with greater frequency than elsewhere; although the circumstance that no perforation is reported from Lister and Mandal for the five years from 1859 to 1863 does not seem to confirm the views advanced, at least in the case of that district.

The striking rarity of operations in Finmarken may to a great extent be explained by the character of the population; this is composed of various nationalities, each marked by striking peculiarities, of the pelvis as well as of other parts,‡ and some of them enjoying the facility in parturition which a low stage of civilization usually confers. The Lapp certainly needs but seldom the aid of art in labor; she does not seek it when needed, even if circumstances render it attainable. At the census of 1855, Norwegians of unmixed descent composed about 64 per cent. of the population in Finmarken; 26 per cent. were Lapps, 9.8 per cent. Quaines. (In Nordland 3 per cent. of the population were Lapps.) We have no further definite statements about operative midwifery in this region, with regard to the points just mentioned.

The greater or less frequency of operations in the various districts cannot be shown to depend upon the relative number of accoucheurs, nor could this circumstance alone be expected to have much influence. For, leaving out of sight different states of opinion, and different degrees of willingness to call for help, the ready access to help will depend, in a given district, upon the density of the population, whether gathered into cities—where the proportion of physicians is largest—or scattered over the country. But the following figures will show that this circumstance is far from having a direct and universal influence upon the frequency of operations. Here is given the number of physicians in each district, compared with the yearly number of births, for the five years from 1859 to 1863; together with the ratio between the city and country population, according to the census of 1855, and the number of obstetric operations for the five years from 1859 to 1863.

TABLE XI.

		Yearly births per physician.	Percent. of pop. living in cities.	No of obs. oper. to 1000 births, 1859–1863.
Akershus District, with	Christiania	83	32·5	13·2
Smaalenen	District	156	20·3	7·1
Hedemarken	"	242	1·4	5·5
Christian	"	275	1·1	7·0
Buskerud	"	214	17·1	9·8
Jarlsberg and Laurvig	"	141	17·4	9·0
Bratsberg	"	227	16·6	12·0
Nedenæs and Robygdelag	"	161	15·5	14·9
Lister and Mandal	"	189	22·2	13·3
Stavanger	"	361	16·2	7·4
S. Bergenhus, with Bergen		184	19·1	10·6
N. Bergenhus	"	304	0·0	6·3
Romsdal	"	259	8·4	10·0
S. Throndhjem	"	152	16·6	5·8
N. Throndhjem	"	228	1·9	6·1
Nordland	"	242	0·3	4·8
Finmarken	"	203	9·8	2·6
	Total	181	13·2	8·6

It will be observed that in the districts the number of operations stands in no demon-

* See Norsk Magaz. f. Lægevidenskaber xv. B. 10 H. 1861.

† L. c. xx. B. 2 H. 1866.

‡ Cfr. M. Retzius: "Om Bækkenets Form hos de Folkeslag, der bebo den Skandinaviske Halvö." Foredrag ved det 5te Skandinaviske Naturforskermöde. Copenhagen. 1849.

strable relation either to the relative number of accoucheurs, or to the proportion of inhabitants of cities. There are other circumstances that may have an influence, and among them the various local peculiarities; the degree of enlightenment among the people, the frequency with which they employ physicians, and the degree of confidence placed in them; as well as the different individual views of the accoucheurs with regard to the indications for operation.

As the division into districts may be said to furnish too small an area for comparing the frequency of operations, since accidental and local circumstances exert a great influence, we may regard a presentation of the same data for a larger circuit, as equalizing these influences, and as better fitted for showing a relation—if any such exists—between the rate of frequency of operations and the other conditions stated in Table XI. For this object the old division into provinces is less adapted. The present province of Christiania, with its dense population and numerous towns, separates itself naturally from the province of Hamar, formed by the two upland districts, and the district of Bratsberg is most like the province of Christiansand, with which it is united in the new arrangement. In the following table the data are given as in Table XI., the new division into provinces being made the basis on which is presented the proportion of inhabitants to area, according to the census of 1855.

TABLE XII.

PROVINCE OF	Births yearly, per physician, 1859–63.	Percent. of pop. living in cities, 1855.	Pop. to geograph. square mile in 1855.*	No. obstet. operations to 1000 births, 1859–63.
Christiania	121	22·8	880	10·3
Hamar	258	1·2	236	6·3
Christiansand	225	17·5	407	11.4
Bergen	219	11·3	315	9·6
Throndhjem	190	10·2	249	6·5
Tromsö	223	4·2	66	3·6

According to this, the frequency of operations does not depend upon the proportion of accoucheurs, but, as a general rule, stands in a certain relation to the density of population; the province of Christiansand furnishing a striking exception, where, in spite of the much more scattered population, the operations are more frequent than in the province of Christiania.

We should have more certain and instructive data for determining this question, in many respects so interesting, if there were separate returns for towns and country-districts. With regard to the distinction between town and country it may be remarked, that operations in towns cannot be expected to be, without limitation, so greatly in excess as one might suppose at a first glance. For, when distances are great, the country practitioner will often find himself, for want of time and in view of other duties, obliged to terminate a labor by operative interference, which in a city, where expectant treatment is more practicable, would have been left to nature. On the other hand, in a dense population in a country region, with a physician close by, the difference between town and country will be less.

* The statute mile in Norway=6.6423 English miles.

DEAD UNDELIVERED.

In connection with these statements regarding the frequency of operations in the country and its several divisions, the question occurs, whether operative midwifery in the whole or in portions of the kingdom can be said to answer to the requirement, that the life of the mother and child shall not be lost through the want of the help of art. Unfortunately, there die from year to year no small number of women undelivered; and though such cases may certainly be unavoidable under some circumstances, and though doubtless the priests' lists state some as "dead undelivered" who really died of intercurrent disorders before the termination of pregnancy, and therefore are out of place under this heading, yet the large numbers show that the call for operative midwifery is greater than the possibility of obtaining it.

The following table shows the number of dead undelivered for the years from 1853 to 1863.

TABLE XIII.

	1853–58	1859–63	1853–63
Christiania	—	—	—
Dist. of Akershus	5	2	7
" Smaalenen	1	1	2
" Hedemarken	9	4	13
" Christian	2	2	4
" Buskerud	6	5	11
" Jarlsberg & Laurvig	2	1	3
" Bratsberg	7	7	14
" Nedenæs & Robygdelag	4	3	7
" Lister and Mandal	3	6	9
" Stavanger	1	13	14
" S. Bergenhus	21	24	45
Bergen	2	—	2
Dist. of N. Bergenhus	11	9	20
" Romsdal	7	5	12
" S. Throndhjem	3	8	11
" N. Throndhjem	4	9	13
" Nordland	12	10	22
" Finmarken	7	6	13
Whole kingdom	107	115	222

We see that the numbers have not diminished for the last five years; but the returns, especially for the first six years, are not likely to be quite correct. In few cases is the physician (or the midwife) found to have been present at these labors, and even then he was usually sent for so late that the woman was dead before or directly after his arrival. Great distances, and other local difficulties, are the usual causes of these accidents. Often, also, the prejudices of the common people, and an opposition, based on fatalistic reasons, to receiving the aid of art. We even read now and then in the documents of the Department, of cases of this latter class; and the Bergenhus districts seem unfortunately conspicuous in this regard. In South Bergenhus alone, occur one-fifth of all the cases of death without delivery in the whole kingdom, during these eleven years. No connection of the nature of an inverse ratio, between frequency of operations and number of deaths without delivery, can be shown to exist in the separate Districts. The causes of this class of deaths are often of an accidental and local nature, and have no necessary connection with the practice of operative midwifery in the rest of the district. In general, the greater the distances and the more difficult the communications within the district, the greater the number of deaths without delivery.

The following table shows the proportion of deaths without delivery to the total number of deliveries.

TABLE XIV.

	1853–58	1859–63	1853–63
	1 died undelivered in		
Christiania	—	—	—
Dist. of Akershus	3484	8868	5022
" Smaalenen	17,722	16,957	17,339
" Hedemarken	2739	5020	3441
" Christian	10,657	10,201	10,428
" Buskerud	4052	3259	3691
" Jarlsberg & Laurvig	7425	13,489	9447
" Bratsberg	2316	1862	2089
" Nedenæs & Robygdelag	3285	3459	3359
" Lister and Mandal	3806	1868	2514
" Stavanger	19,499	1261	2563
" S. Bergenhus	932	703	810
Bergen	2734	—	5113
Dist. of N. Bergenhus	1410	1501	1451
" Romsdal	2367	3121	2681
" S. Throndhjem	5552	2022	2985
" N. Throndhjem	3122	1331	1882
" Nordland	1266	1439	1360
" Finmarken	1808	1979	1909
Whole kingdom	2848	2361	2596

RESULT OF OPERATIONS UPON MOTHER AND CHILD.

With regard to the result of obstetric operations upon mother and child, it has been already stated that the returns are less full—for the physicians were not definitely instructed to report the result of all operations, but only of those where sharp instruments were employed. Such was the purport of the circular issued by the Department, November 30th, 1852. In the first six years of which we are treating, the result upon the mother is given in scarcely more than half of the operations of the last named class; the result upon mother and child, after the other operations, is stated for a comparatively small number of cases. But as the returns for the last five years are in general fuller, we have more accurate statements of the results of the operations in question (whether performed with sharp instruments or not), embracing about three fourths of the whole number.

In consequence of the results being given for but part of the operations—and for a larger or smaller part in different districts—the statistics here given are not a suitable means of comparing the various parts of the kingdom with each other in this respect. Therefore, in the statistics given below, the result for the whole country is given respecting each of the operations.

RESULT FOR MOTHERS.

How far the death of the woman in labor is a direct or indirect result of operative interference; whether death is a result of the operation or of complications during labor or irregularities in its progress, which may perhaps have necessitated operative measures; or whether, finally, death was caused by sickness in childbed, unconnected with the character of the labor or the assistance rendered by art; these questions it may often be impossible to answer with definiteness, in given cases. If, therefore, we do not confine ourselves to the cases where death was the direct result of a more or less palpable traumatic influence, the statements we make of the fatality among the mothers can only be regarded as indicating cases where death occurs within a certain time after assisted labor. But here occurs the question, what limits shall be put to the time after delivery within which the result of the operation—life or death—shall be considered as decided? The views regarding this seem to differ in the various countries which furnish statistics; and comparisons with these countries would only be fair, in so far as the statistics were based upon the same limit of time. A circular issued Nov. 12th, 1850, by the Department of the Interior, upon the recommendation of the Medical Committee, directs that death occurring within four weeks after delivery shall be counted as

death in childbed. In giving the result of operations the same limit of time is generally observed, so that the statement that an operation was fatal to a woman usually means that death occurred in the course of the first—puerperal—month after delivery.

As to the results of obstetric operations for mothers, we have accounts given—

In the six years from 1853 to 1858, in 447 of 2087 operations performed = 21·4 per cent.
i. e., in 74 of 133 operations with sharp instruments = 56·6 " "
in 373 of 1954 other operations = 19·1 " "
In the five years from 1859 to 1863, in 1757 of 2376 operations performed = 73·9 per cent.
i. e., in 121 of 143 operations with sharp instruments = 84·6 " "
in 1636 of 2233 other operations = 73·2 " "

The following table gives the results of separate classes of operations for mothers—so far as data exist. [See Table XV.]

The less favorable result of the majority of the operations from 1853 to 1863 probably depends partly on the fact, that while the returns as a whole are incomplete, the reports sent in have proportionally oftener contained statements of the cases in which operations have been followed by the woman's death, whereby the returns have come to include a number which is relatively too large.

Regarding the result of operations for mothers in several German states, a number of facts are presented in the work of Ploss, already referred to, of which the following are here given.

In Saxony, according to Ploss, from 1835 to 1841, there died after artificial deliveries of all sorts:—

Of 26,253 mothers, 821 = 1 in 31·9:

but the period for determining the result is set down as fourteen days after birth.

According to Riecke, in Würtemberg, from 1821 to 1825, there died—

After forceps delivery,	of 2740 mothers,	127 = 1	in 21·6
" turning,	" 3120	" 300 = 1	" 10·4
" extraction,	" 500	" 10 = 1	" 50
" perforation,	" 84	" 31 = 1	" 2·7
" embryotomy,	" 12	" 5 = 1	" 2·4
" premature induced labor,	" 14	" 4–5 = 1	" 3–4
" placenta remov'd,	" 1500	" 140 = 1	" 10
In all	" 7970	" 618 = 1	in 12·9

According to Sick, the proportion in Würtemberg, from 1846 to 1856, after operations of all sorts, was—

1 in 23–24.

TABLE XV.

	1853–1858.	1859–1863.	1853–1863.
Forceps-deliveries	in 325, died 32 = 1 in 10·1	in 1353, died 104 = 1 in 13·0	in 1678, died 136 = 1 in 12·3
Turnings	" 26, " 11 = 1 " 2·3	" 243, " 54 = 1 " 4·5	" 269, " 65 = 1 " 4·1
Extractions	" 5, " 3 = 1 " 1·6	" 14, " 1 = 1 " 14·0	" 19, " 4 = 1 " 4·7
Perforations and kephalotripses	" 48, " 27 = 1 " 1·7	" 80, " 37 = 1 " 2·2	" 128, " 64 = 1 " 1·2
Embryotomies	" 24, " 12 = 1 " 2·0	" 38, " 15 = 1 " 2·5	" 62, " 27 = 1 " 2·3
Induced premature labors	" 6, " 1 = 1 " 6·0	" 8, " 4 = 1 " 2·0	" 14, " 5 = 1 " 2·8
Cæsarean sections	" 2, " 2 = 1 " 1·0	" 3, " 3 = 1 " 1·0	" 5, " 5 = 1 " 1·0
Placentar operations	" 11, " 6 = 1 " 1·8	" 18, " 4 = 1 " 4·5	" 29, " 10 = 1 " 2·9
Total	" 447, " 94 = 1 " 4·7	" 1757, " 222 = 1 " 7·9	" 2204, " 316 = 1 " 6·9

According to Schwörer, in the circle of the upper Rhine, in Baden, there died, in 1843 and 44—

After forceps-delivery,	of 194 mothers,	7 = 1	in 27·5
" turning,	" 179	" 14 = 1	" 12·8
" perforation,	" 10	" 4 = 1	" 2·5
" removal of placenta,	" 204	" 8 = 1	" 25·5
In all,	" 587	" 33 = 1	" 17·7

According to Mayer, in Middle Franconia, in Bavaria, there died, from $18\frac{56}{57}$ to $18\frac{59}{60}$—

After forceps delivery,	of 1263 mothers,	33	= 1 in	38·2
" turning,	" 725 "	38	= 1 "	19·1
" Induced premature labor,	" 13 "	1	= 1 "	13·0
" perforation,	" 74 "	19	= 1 "	3·9

After operations of all sorts, 1 in 23.

Regarding all these last data, it is not stated what period after delivery is considered as determining the result of an operation; but since this limit is probably put at less than the four weeks, by which we reckon, the proportion is doubtless more favorable to us upon this ground, than if the length of time were uniform. But here occurs an important fact, which will not allow a strict parallel to be drawn without just consideration of the circumstances under which the operation is performed in both cases. In the German states named, it is performed among a dense population, where distances are short, and help near at hand; besides, it is probable that the immense majority of manual operations are performed in favorable time and circumstances; in our country, on the other hand, a greater proportion are performed by physicians who are summoned from far distant places, upon women who are exhausted by a protracted labor, and often, too, after fruitless attempts at delivery by midwives. The difference in results therefore—leaving out forceps-deliveries, which doubtless are often performed as "luxus-operations"—is most noticeable in operations which are allowed to be performed by midwives; while those which consist in applying sharp instruments to the fœtus show more uniformity with results obtained abroad.

For a comparison with nearer neighbors no data are known to us except those given for Sweden in the reports of the Swedish College of Health, concerning the result of instrumental deliveries performed by the Swedish midwives. But we have to remark that these data, apart from the more favorable circumstances in which these midwives are often placed in respect to opportunity for the operation, do not at all furnish a uniform basis for comparison, since the midwives are allowed but a very short time to wait before reporting the result of the operation. Lately, attention has been directed to this point, and the time has been fixed at fourteen days, if we are rightly informed.

The result for mothers of the instrumental deliveries (by forceps and sharp instruments) performed by the Swedish midwives, is as follows, according to the aforementioned data:—*

Of 1478 mothers 85 died = 1 in 17·3.

* Sundhetscollegii underdaniga berättelse för aret 1861.

In 1861, there died—

After forceps-delivery,	of 187 mothers,	3	= 1 in	62·3
" delivery by sharp instruments	" 17 "	1	= 1 "	17·0

There is yet one question with regard to the fatality after obstetric operations, which it would be interesting to be able to answer, namely, what proportion the deaths after artificial delivery bear to the total mortality among parturient women. To this question, however, the facts as yet in our possession can only give an approximate answer. On the one hand, we have no statement of the result for mothers after all obstetric operations; and on the other, our official returns of "dead in childbed" cannot be regarded as being so accurate as to furnish a safe basis for the calculation. In obedience to the Circular issued by the Department, November 12th, 1850, the priests are expected to state, under the heading "dead in childbed," those dead within four weeks after confinement; for it is assumed, that this period will furnish a total which nearly answers to the actual puerperal mortality in the narrow sense, and that the error of omitting subsequent deaths from childbed disorders is balanced by reckoning in deaths at the close of pregnancy, during labor, or from other events independent of the pregnant condition. But it appears from the medical reports of the Department, that physicians often meet with cases of death within four weeks after delivery which are not included in the priest's reports, usually for the reason that the death, on account of circumstances, has not been considered to stand in connection with childbed, and in the account given to the priest has not been designated as occurring within four weeks after a confinement. The heading "dead in childbed" may therefore be considered to include, as originally was the case, only an approximate statement, as far as possible, of deaths due to sicknesses peculiar to childbed.

On account of the few returns of the result of obstetric operations in the six years from 1853 to 1858, this period cannot be included in reckoning the proportions of deaths after artificial delivery to the total puerperal mortality. Using the data for the five years from 1859 to 1863, such as they are, the proportion is as given in the following table, where for every district is given the number of deaths returned after obstetric operations, the number of "dead in childbed," the ratio of deaths in childbed to the total number of confinements, and the ratio of deaths after obstetric operations to

deaths in childbed, first subtracting from the latter the number of "dead undelivered."

TABLE XVI.

	Mortality returns after obstetric operations.	Dead in childbed.	Proportion of deaths in childbed to number of births.	Proportion of deaths after obst. operations to deaths in childbed.
Akershus (with Christiania)	32	168*	1 : 164·3 = 0·68 per cent.	1 in 5·2
Smaalenen	17	87	1 : 193·7 = 0·51 "	1 " 5·1
Hedemarken	6	89	1 : 225·6 = 0·44 "	1 " 14·1
Christian	8	80	1 : 255·0 = 0·39 "	1 " 9·7
Buskerud	14	77	1 : 212·5 = 0·47 "	1 " 5·1
Jarlsberg and Laurvig	12	85	1 : 159·6 = 0·62 "	1 " 7·0
Bratsberg	10	110	1 : 118·5 = 0·84 "	1 " 10·3
Nedenæs and Rohygdelag	14	83	1 : 125·0 = 0·80 "	1 " 5·7
Lister and Mandal	10	84	1 : 133·4 = 0·74 "	1 " 7·8
Stavanger	5	127	1 : 129·0 = 0·77 "	1 " 22·8
S. Bergenhus (with Bergen)	23	204	1 : 106·0 = 0·94 "	1 " 7·8
N. Bergenhus	9	108	1 : 125·9 = 0·79 "	1 " 11·0
Romsdal	18	149	1 : 104·7 = 0·95 "	1 " 8·0
S. Throndhjem	15	159	1 : 101·8 = 0·98 "	1 " 10·1
N. Throndhjem	15	85	1 : 140·9 = 0·71 "	1 " 5·1
Nordland	5	147	1 : 97·9 = 1·02 "	1 " 27·4
Finmarken	9	151	1 : 78·6 = 1·27 "	1 " 16·1
Whole kingdom	222	1993	1 : 135·8 = 0·73 "	1 " 8·9

* From the total returned for the District and City (205) the number occurring in the lying-in hospital (38) is subtracted.

The cities of Christiania and Bergen cannot be separated in this table from the adjacent districts, for the returns of operations and their result have not always distinguished between the town and the district.

If the puerperal mortality in these five years is reckoned separately for the two cities, the proportion is as follows :—

DIED IN CHILDBED—

In Christiania (including hospital),	109 = 1·05	per cent.
" " (excluding hospital),	71 = 0·73	"
" Akershus District,	97 = 0·54	"
" Bergen,	66 = 1·38	"
" S. Bergenhus District,	138 = 0·81	"

In the last column of Table XVI. there are considerable differences in the proportions given ; this results from the varying degree of completeness with which returns of results are made in different districts. Thus, in Hedemarken the result for the mother is given in only 29 per cent. of the operations, in Stavanger in 50 per cent., &c.

The result for the mothers is given in 73·9 per cent. of all the operations ; if we assume that after the operations for which this result is not given, the death-rate is the same, the number of deaths after obstetric operations would amount to 300 = 1 : 6·6 of those "dead in childbed." We may remind the reader that we speak only of operations performed by physicians.

MORTALITY IN CHILDBED.

To the above statements regarding the mortality in childbed in Norway we will add—since this subject stands in a close though indirect relation to the preceding—a number of facts regarding the mortality in confinement in other countries and in a wider circuit. The need of this is the greater, since this question has long been an object of special attention and lively discussion in various countries, especially as connected with the hygiene of lying-in hospitals, and the unfavorable circumstances in which women are there placed as compared with women who are delivered in their homes. A closer consideration of these circumstances will probably show what significance belongs to the facts of this class and how far their value, regarded as an expression of the true condition, depends on the mode in which the data are collected and registered, and the principles which are followed therein.

The results of very wide-embracing observations upon the mortality among pregnant women within and without lying-in hospitals, are set forth in a newly published French work (Des Maternités, &c., by Dr. L. Lefort, Paris, 1866), the announcement of which before the *Société Impériale de Chirurgie* in Paris gave rise to a very general discussion of the subject.* The author has collected a total of 888,312 births from a large number of lying-in establishments of Middle and North Europe ;† in this number appears a mortality of 30,594 women, a ratio of 1 : 29 = 3·4 per cent. In a total of 934,781 women confined out of hospitals, there were said to occur only 4405 deaths, or 1 : 212 = 0·47 per cent. The last data are mainly drawn from policlinic institutions in some of the larger German, English and French cities, but the author states that the mortality outside of hospitals was in reality larger, chiefly because the period after confinement during which the woman is kept under observation is generally too short. But the figures given for many of these cities may be considered as a nearly correct expression of

* See Gazette Hebdomadaire, April and May, 1866. L'Union Médicale, April and May, 1866.

† Including those of Sweden; while the author seems to be unacquainted with our institution, although its reports are sent to both Academies in Paris.

the truth—as will be seen from the following special data given by Lefort.

In Berlin the ratio was in	1864	1 : 71·4	= 1·4	per cent.
" Munich	"	1859–63 1 : 119	= 0.84	"
" Leipzig	"	1849–59 1 : 92	= 1·1	"
" Greifswalde	"	1859–61 1 : 49	= 2·0	"
" St. Petersburg	"	1845–52 1 : 149	= 0·67	"
" Edinburgh	"	1858 1 : 183	= 0·54	"
" London	"	1818–63 1 : 259	= 0·38	"
" Paris	"	1856–63 1 : 181	= 0·55	"

In general the mortality seems greater in smaller cities where oversight is easier and probably more careful; it seems least in the large cities, especially in London, whose large total contributes greatly to produce the above favorable result derived from the grand total. (Of the entire 934,781 labors outside of hospitals, no less than 612,566, with only 2363 deaths, belong to the various dispensaries and policlinic departments of hospitals in London.) In the remarks with which Lefort introduces these statistics, it is also stated that a discussion was held in the London Obstetrical Society in the preceding year, upon the mortality of lying-in women in and outside of hospitals, in the course of which Dr. Barnes declared that the oversight of lying-in women there is confined to three visits—that is, of course, to a very few days after delivery.

In the "bureaux de bienfaisance," from whose circle of operations the above statement of mortality in Paris is obtained, the period of observation is said to be limited to the ninth day after delivery; and Lefort thinks the given ratio of 1 : 181 is too favorable; while Husson, director of public charities in Paris, seems to have reached the result, that a ratio of 1 : 160 nearly expresses the actual mortality in that city. This ratio is deduced from the investigations carried on for some years past by the "comité consultatif de l'hygiène," &c., in Paris, relative to the same question. As the result of its inquiries, a report was drawn up and submitted by Prof. Malgaigne, a member of the committee, which was published in the "Bulletin officiel du ministère de l'intérieur, Paris, 1864." In this report, the number of women dead in childbed in Paris is given—

	In 1861.			
In lying-in hosp'ls,	693 in 7226	= 1 in	10·42	= 9·5 pr. ct.
Among women assisted by "bureaux de bienf.,"	32 " 6212	= 1 "	194·12	= 0·51 "
In general population,	262 " 44,481	= 1 "	169·7	= 0·58 "
	In 1862.			
Lying-in hosp'ls,	476 in 6971	= 1 in	14·64	= 6·8 pr.ct.
Bureaux de bien.,	39 " 6422	= 1 "	164·66	= 0 61 "
Gen. population,	226 " 42,796	= 1 "	160·88	= 0·53 "

Lefort believes that with adequate supervision after confinement the ratio of 1 : 150 would come nearest the truth.

As a contribution to the solution of this question for Paris, based on a careful supervision within a narrow field, certain facts were cited in the discussion in the "Société de chirurgie"—being the results of Tarnier's investigations in a single arrondissement, which were published in 1857 in his "thèse inaugurale" upon mortality in childbed within and without hospitals. According to this, the number of women dead within a month after confinement in the 5th arrondissement of Paris, in 1856, was—

Among women assisted by bureau de bienfaisance, 1 in 142.4 = 0·70 per cent.

Among the general population outside of hospitals, 1 in 322·2 = 0·31 per cent.

In the maternités, 1 in 19·62 = 5·1 per cent.

Here the supervision of the woman's condition was said to have actually extended to one month after confinement. What the mortality is under conditions where, as it seems, the most careful supervision is exercised over the woman's condition for a considerable time after confinement, the following data from Edinburgh and Glasgow show; they are furnished, and used with another object, by Dr. Mathews Duncan in a treatise upon mortality in childbed.* According to this, there died in Edinburgh and Glasgow of married women in the first six weeks after confinement:—

50 of 3722 primiparæ = 1 in 74 = 1·34 per cent.

103 of 12,671 multiparæ = 1 in 123 = 0·81 per cent.

In all, 153 of 16,393 married women = 1 in 107·1 = 0·93 per cent.

This rate is much less favorable than that given by Lefort for Edinburgh for the year 1858, and since married women only are included in the former, the entire rate would probably be somewhat greater. In the same work is given the mortality among lying-in women in all England in the year 1851, according to detailed statistics by Dr. Farr, which are given in the Registrar-General's 17th yearly report, viz.:—

3232 of 609,845 = 1 : 188 = 0·53 pr. ct.

But it is not stated what time is allowed for deciding the result of confinement.

From Sweden and Denmark we have no data of mortality in childbed that can be employed for comparison. The statistics of mortality given by the Swedish Central Bureau are probably not, as with us, derived from the fuller reports of the total

* On the Mortality of Childbed as affected by the number of the Labors. By Mathews Duncan. Edinburgh Medical Journal, Sept. and Oct., 1865.

mortality within four weeks made by pastors, but drawn from physicians' and midwives' reports; and the women in Sweden are very far from always employing the aid of a physician or midwife. Thus, we see that, in 1861,* of 128,937 confinements in Sweden, 50,424 were accomplished without the aid of licensed accoucheurs. In the year 1861 only 504 are reported as dead in childbed, which, compared with a total of 128,937 births, shows a rate of 1 : 256= 0·39 per cent. The number of deaths from puerperal fever in Stockholm in the same year was, according to the physicians' reports, 29; of rupture of the uterus, flooding, &c., probably connected with accouchement, 8; in all, 37—which, in a total of 4236 confinements, gives a rate of 1 : 1145 = 0·87 per cent.; and in Götheborg, in the same year,

22 died of 1330 = 1 : 60·4 = 1·6 per cent.

[To be continued.]

Reports of Medical Societies.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY.
SAMUEL W. ABBOTT, M.D., SECRETARY.

This Society met on the evening of Sept. 30th, with Dr. Wm F. Stevens, of Stoneham. The Secretary read a letter from Dr. H. I. Bowditch, requesting information in relation to the "Climatology and Epidemics" of this district. The Society voted to comply with the request of Dr. Bowditch.

Written communications were read as follows:—

Dr. W. F. Brown, of Stoneham, on the *Development of the Fœtus*, with remarks as to the medico-legal bearing of the subject. Dr. B. alluded to the difficulty and importance of determining the age of the embryo at the time of miscarriage. He illustrated by the following case. Mrs. —— miscarried June 20, 1868. A female embryo. Her first pregnancy. Its entire length was 7½ inches. Weight, 5 oz. Eyelids adherent. Lips fully formed. Fingers and toes entirely separate. Cerebrum and cerebellum well developed. Spinal cord firm, extending to sacrum. Clavicle partly ossified. Thymus gland present. Lobes of lungs well marked. Lungs sank in water. Gall bladder containing bile. Bowels contained meconium. Supra-renal capsules two thirds the size of kidneys. Ureters large, and pervious. Bladder large and distended with urine. Clitoris large. Ovaries small. Uterus small. Cervix long. According to the patients statement, conception could not have occurred earlier than March 31st, she having been absent from her husband previous to that date. The extreme period of gestation must then have been 82 days, or 11½ weeks.

On reference to authorities on this subject, Carpenter gives the length of the embryo at the end of "*three months* as 2 to 2½ inches. Weight 1 to 1½ oz. *Four months*, length 5 to 6 inches. Weight 2½ to 3 oz. Mouth large and open." Cazeaux: "At end of third month, the embryo weighs 3 to 4 oz., and measures 5 to 6 inches."

Granting the unimpeachable chastity of the lady (of which Dr. B. had no doubt), it is evident that the weights and measurements differ widely from those set down in the books. For the difference between 11½ and 13 weeks, or 3 months, would be amply sufficient to allow for differences of development in individual cases. The parents were both somewhat under the average size and weight.

A lively discussion ensued on the question as to the age of the fœtus. The general impression, derived from the experience of those present, was that this fœtus must have been much older than Dr. B. believed it to be.

Dr. J. F. Frisbie read a paper on a case of *Inflammation of the Brain and its Membranes, followed by Abscess of the Thigh and Death.* The patient, a stout, healthy farmer, aged 40, had an attack of meningitis, from which he had nearly recovered. After two weeks, his right leg became œdematous and glistening. The limb presented the general appearance of phlegmasia dolens. It became greatly enlarged, above the knee, and an abscess formed about the middle of the anterior aspect of the thigh, which, on being opened, discharged about half a pint of pus. At first the patient began to improve, but the severe drain was too much for him, and he at length died from exhaustion.

A similar case was reported by one of the Society, following in like manner an attack of meningitis.

Dr. F. also gave an account of a young man, aged 23, who had two distinct pairs of nipples, the lower pair being about two inches below the upper, and somewhat nearer the median line.

Dr. F. F. Brown read a paper on a case of *Embolism, or Fibrinous Deposition in the Heart.* A child, 2½ years old, usually

* See Statistika Central-byraus underd. berättelse for aret 1861.

healthy and vigorous. After a hot day in July, became restless at night, had several alvine discharges, and, after a light dose of ol. ricini given by the mother, several more discharges through the day; also vomiting. He grew rapidly worse, and died about 11, P.M., twenty hours after he was taken sick.

Autopsy, next day, at 3, P.M. Abdominal viscera healthy. Lungs normal. Heart: Left ventricle empty; right ventricle partially filled with dark, uncoagulated blood. Also containing a firm fibrinous concretion, nearly white, and entirely distinct from the surrounding blood. It was found in two or three parts, adherent at the ends to the walls of the heart, the body of the concretion passing through the auriculo-ventricular opening, and one of the ends, being free, passed into the pulmonary artery.

Dr. Winsor read from his notes a case of *Peri-nephritic Abscess*, occurring in a bartender, aged 34. He had coughed up in all about four quarts of pus. The cavity was carefully opened by means of a knife and director, and about five ounces of pus evacuated. Patient now recovering.

Dr. Stevens related a case of *Gun-shot Wound of the Abdomen*, in the region of the diaphragm, in which the patient coughed up wadding and portions of clothing from the lungs.

Dr. F. F. Brown related a case of *Typhoid Fever, attended with alarming Epistaxis and Death*, which, in this instance, he thought might be attributed to the excessive hæmorrhage. The patient was a man of 26 or 28 years, and had always been subject to epistaxis, but was otherwise healthy. He was sick about a fortnight.

Dr. Winsor related a similar case. Dr. W. also gave an account of a case of *Fracture of the Skull*. The patient, a young lad, was kicked by a horse, causing a distinct depression of the skull, a piece of bone being sunk below the level of all that surrounded it. When first seen, the boy was in a state of collapse. Three hours after, Dr. Cabot, of Boston, trephined the skull, removing a portion about one inch wide by two inches long. The dura mater was found uninjured. The wound was treated with a simple dressing, moistened with a solution of carbolic acid in glycerine. He has rapidly recovered, with no pain or soreness in the injured spot from the first.

M. Nelaton has been elevated by the Emperor to a seat in the Luxembourg as Senator of France.

Bibliographical Notices.

The Anatomy and Histology of the Human Eye. By A. Metz, M.D., Prof. of Ophthalmology in Charity Hospital Medical College, Cleveland, Ohio. Philadelphia: Office of the Medical and Surgical Reporter, 1868. pp. 184.

We learn from the author's preface that, the want of a text-book which should give in connected form the results of the more recent investigations on the anatomy of the eye, was the motive which led him to this publication. The author does not pretend to give original observations, but the list of works and special treatises which have been laid under contribution comprises almost all those of value up to the present time.

Such a compilation as this cannot fail to be of great value to the general practitioner, as well as to the student of ophthalmology, provided it has been well and faithfully made, and this is in general the case in the present work.

Dr. Metz is, we believe, German by birth and education, and this fact may, perhaps, fairly explain the occasional errors in the construction of his sentences, which sometimes serve to confuse the reader. Frequent typographical errors occur also; a large proportion of the Latin terms used offer evidence of carelessness in the proof-reader, and the division into paragraphs seems sometimes to have been made arbitrarily, without any reference to the subject matter. On a few points, however, we must find fault with Dr. Metz's work on more serious grounds.

In the description of the choroid, the distinction between the epithelial pigment layer and the stroma proper is not drawn with sufficient clearness. The description of the two is combined in such a manner, that we doubt very much if any one from reading it would properly appreciate the difference between them. Recent histologists seem to agree that the epithelial layer of the choroid, so-called, belongs, so far as its origin may determine the matter, rather to the retina than to the choroid. They trace its origin, with that of a portion of the retina, to the external wall of the secondary ocular vesicle, this latter being formed by an inversion of the lower portion of the primary ocular vesicle, though they differ as to the proportional part which the external and internal walls take in the forma-

tion of the different retinal layers. From a practical point of view also the distinction between the epithelial layer and the stroma of the choroid is important, and a correct understanding of it essential, since the amount of pigment in either or both of them may vary greatly, and thus give rise to very different appearances in the fundus of the normal, and of course of the diseased eye, as seen with the ophthalmoscope. With this exception, however, the description of the choroid is excellent, and we shall quote from it later.

As regards the hyaloid, Dr. Metz appears to agree with Hanover, who described this membrane as dividing into two layers at the ora serrata; the anterior layer again dividing on the ciliary processes and thence passing to the anterior and posterior surfaces of the lens capsule, enclosing between its two lamellæ the canal of Petit; while a longer, shallower canal (of Hanover) was described as lying between the posterior wall of Petit's canal and the layer of the hyaloid enclosing the vitreous. It is now almost universally admitted that no such canal as that of Hanover exists, and that there is but one division of the hyaloid, viz.: that on the ciliary processes. We are at a loss to understand how it is that Dr. Metz still holds with Hanover.

We must take exception also to the following statement, which we find on p. 100. "The fibres of the zone of Zinnius in connection with the longitudinal fibres of the ciliary muscle, are the active agency in accommodation for remote objects, or for negative accommodation." The muscular nature of the fibres of the zone of Zinnius is asserted on the authority of Heiberg. But Heiberg was unable to satisfactorily determine the muscular nature of these elements in man, though he believed he discovered them in the horse, while more recent observers consider them to be elastic fibres. Moreover, the existence, even, of negative accommodation cannot be affirmed with our present knowledge of the subject; we are aware of no fact which tends to show such accommodation, and Donders declares against it in the most positive manner.

On p. 101 it is stated of the vitreous, "It never contains as much fluid as its volume seems to permit, and hence it allows the alterations in size of the lens diameter during accommodation, and the changes in form that must follow the action of the muscles; and its inherent elasticity enables it to resume its form." It is a little difficult to understand what is meant by the first part of this statement. The volume of the vitreous is directly dependent upon, and varies with, the amount of liquid composing it, and any increase of the liquid must increase the volume also. Probably Dr. Metz did not intend to say exactly what he has said. Certainly the changes in the shape of the lens do not require any change in the amount of the vitreous, and only to a very slight extent in the shape of its anterior surface; however the shape of the lens may change, its cubic contents remain the same.

Fortunately there are but few such imperfections as those we have mentioned to be found, and the good which Dr. Metz has given us is so much as to make his book of decided value.

For the account of the blood-vessels of the choroid the author has followed Leber, whose investigations were made with great care, and have led to some important modifications in the formerly accepted view of the vascular system of this membrane. Among the most important of these modifications is the denial of the existence, as taught by Bruecke, of arteries passing directly into veins without the intervention of capillaries.

We quote the following passages as offering favorable examples of the book.

"The posterior ciliary arteries must be farther divided into the short posterior ciliary arteries, which are distributed only within the choroid itself, and the long posterior ciliary arteries, which proceed directly to the ciliary muscle, running in their course between the choroid and sclera. In the ciliary muscle the long posterior ciliary arteries form a connection with the anterior ciliary arteries, to supply with blood the corpus ciliare, the iris, and the anterior portion of the choroidea. The vascular membrane then has an anterior and a posterior system of blood-vessels, which are not independent of each other, but form free connections. The anterior region is supplied by the long posterior and the anterior ciliary arteries, and the posterior region is supplied by the short posterior ciliary arteries." * * * * * "The blood from the vascular tunic is carried off mainly by the venæ vorticosæ. A small portion escapes through the anterior ciliary veins. The posterior short ciliary veins consist of a few fine venous trunks, which carry off blood only from the sclerotica, and none from the choroid, as taught by Bruecke and others. The long posterior ciliary veins, corresponding with the long posterior ciliary arteries, as described in text books, do not exist."

Since Heinrich Müller, who furnished a

firm basis for future observation, the retina has been a favorite field of investigation with histologists. Although we know but very little at present of the part which its different elements respectively take in the performance of the function of vision, their form and mutual connection appear to be now pretty well settled.

The rods and cones forming the external (bacillar) layer contain each a central filament with bulbous point, connecting at its internal extremity with the radiating fibres, or fibres of Müller. These, formerly considered as connective tissue, in the external granular layer enclose within themselves the round or ovoid, transversely striated granules, and, passing through the intergranular layer, of which they form the only nervous constituents, join the small cells of the internal granular layer. From these cells again fibres pass through the fibrous layer and unite with the ganglion cells, while the internal processes of the ganglion cells are directly continuous with the layer of nerve fibres emanating from the optic nerve.

The mutual relations of the nervous and connective tissue elements of the retina is well and clearly described by the author, who has in the main followed Ritter, to whom we owe the best account of the retina hitherto given.

Ritter considers the rods and cones as essentially the same elements, performing the same functions, and only differing as to their shape, but here Dr. Metz inclines to the views of Max Schultze. Shultze regards the cones as the only active agents in the distinction of colors, basing his opinions in great part on the relative situation of the rods and cones in the retina, and the fact that, in the retina of those animals and birds which prefer twilight, but few cones exist, while none are found in the retina of those which are active only at night.

This point however is, as we have already intimated, far from being definitely decided, and moreover is outside of the proper scope of the book, which only professes to treat of the anatomy of the eye.

The portions relating to the cornea, the crystalline lens, and the conjunctiva and lids are well handled, and we commend them to the attentive perusal of the reader. The cornea, especially, still furnishes debatable ground for histologists; many points in its minute anatomy must still be considered unsettled; and the recent affirmation by Cohnheim, of the identity of the "wandering cells" and the white corpuscles of the blood, can only offer another element of discord. What is known with regard to the cornea, however, we find here, and on all points the results of the most reliable investigations are given.

The description of the orbit and the extra-ocular muscles and nerves contains little, if anything, not to be found in the ordinary anatomical text-books, though it is presented in more connected form.

On one point, indeed, an exception must be made to this statement. A chapter is devoted to the action of these muscles, and the main points of their partly antagonistic, partly combined influence, in elevating and depressing the globe and rotating its vertical meridian are plainly shown; but this does not fairly belong to the domain of anatomy.

The illustrations have been taken, with one or two exceptions, from the handbooks and monographs of various authors, and due credit given. These aid much in the proper understanding of the text. The book is well printed on good paper.

On the whole, we have here much for which to be thankful to the author. It must be remembered that his task was in some respects a difficult one, and it is evident that much care and labor have been bestowed upon it.

O. F. W.

Medical and Surgical Journal.

Boston: Thursday, October 29, 1868.

CONSTIPATION.

Of all the morbid derangements of function with which the physician has to deal, there is none more common or more obstinate than habitual constipation of the bowels. It is a sufficient proof of this assertion to note the fact that the vast majority of quack remedies and patent medicines are aperient or cathartic; that the enormous consumption of the waters from mineral springs has the same origin, and that to the common mind no medication is good which is not drastic and searching. This fertile source of ill health is found especially among the sedentary, the anæmic and the bilious. The use of bolted wheat, and of fermented bread adulterated with alum by the baker, and the very large consumption of tea, by certain classes, are among the causes of this difficulty. For a fuller classification of details we may refer

to the list furnished by a monograph* on the subject, as follows :—

"1. The use of aperients.

"2. Indolent habits, luxury, too much sleep, confinement in hot, relaxing, ill-ventilated apartments, morbid fear of draughts.

"3. Torpid liver and deficiency or perversion of biliary secretion.

"4. Neglect of proper periods for evacuating the bowels, especially when nature impels.

"5. Pure nervousness, excessive anxiety regarding frequency and regularity of the alvine evacuations.

"6. Want of contractile power, atony of the nerves and the muscular coat of the intestinal canal, irregular peristaltic action, flatulent distention.

"7. Deficient secretion of moisture in the lower bowel, owing to which hardened, scybalous masses, or else numerous little bullet-like formations, are apt to lodge in the colon or rectum.

"8. Constipation from causes mechanical, and of limited location, e. g., hemorrhoidal affections, pregnancy, and muscular weakness or pain (rheumatic or otherwise) located in the abdominal parietes, loins, diaphragm, &c.

"9. Special conditions connected with infancy, old age, cerebro-spinal debility and irritability, and cerebro- spinal paralysis."

The author continues :—

"It is a tolerably well-ascertained fact, that obstinate constipation is infinitely more common among our own countrymen than among the French and Germans. The ironical question may naturally arise, Are British bowels different from those of foreigners? Why should one need what the other can comparatively do without? Why should his pills not unfrequently be as constant as his dinner with the first, while with the latter such disagreeables are a comparative rarity? Surely an all-wise Providence must have organized the intestinal canal, and the various portions of the animal economy upon which it depends, precisely the same in the Englishman as in the Frenchman."

"The contrast alluded to arises from the abuse of medicines, which abuse in a great measure owes its origin, and altogether its universality, to the unfortunate facilities afforded in this free country for the purchase of drugs and every description of quack nostrum. The tradesman, behind his counter, is permitted to retail every medicinal drug, almost every potent poison, without the intervention of the educated guardian of the public safety in such matters;—nay, he is permitted to go so far as to usurp the functions of the physician, and is even encouraged (*mirabile dictu!*) to prescribe himself on the strength of the pharmacopœia placed in his hands by our own profession, purely for the purpose of giving him instruction as to the proper method of preparing and dispensing medicines. In strictures upon this abuse, however, it is but right to make an exception in favor of most of the respectable members of the Pharmaceutical Society."

These statements are even more applicable to our country than to England. The abuse and the license are both greater here; and they seem quite impossible to remedy.

Another evil habit which increases as civilization advances, is the lateness of the dinner hour.

"I refer to the fashionable habit of *over-indulgence* at the late dinner table (i. e., only once a day); as though over-repletion once a day were not itself sufficient, without also drawing upon the stomach and assimilating organs for augmented efforts after the fatigues of the day, and subjecting the system to an overplus at the very period when its requirements are the smallest —when physical exercise to work it off is debarred—when sleep, that admirable regenerator of exhausted nature, is to follow —when, in fine, the totality of existing circumstances indicates as clearly as noonday the propriety of a light, moderate, and easily digestible meal."

Over-indulgence in *animal* food we consider also to be a frequent cause of constipation among our people. No nation consumes such quantities of flesh meats, and so many times a day, as the Americans. Dyspepsia and constipation result.

The rapidity with which we eat, and which causes dyspepsia, is equalled by the carelessness, the hurry and the neglect which we inflict upon the colon and rectum. A neglect of a regular and proper hour to evacuate the bowels is dwelt upon by Dr. Birch, who says :—

"In man there certainly is a beautifully adapted combination of voluntary and involuntary influence, which enables him to a certain extent, by the exercise of the will,

* Constipated Bowels, the various Causes and different Means of Cure. By S. B. Birch, M.D. (From the third London Edition.) Philadelphia: Lindsay & Blakiston.

to direct times and seasons. But this capability, so much greater than in the lower animals, must not be too much trifled with. If we systematically suppress the signals given involuntarily, by planting our wills too obstinately against them, we shall, sooner or later, establish a mortal, though passive foe, in the place of a friendly monitor. The very strong man may tolerate it all, the less strong may do so for a time, but the more delicately organized frame will soon become painfully aware of the unpleasant effects."

The author considers it beyond doubt that the system is poisoned by the retention and absorption of fæcal matter, and that typhoidal, gastric and bilious attacks result.

"If the proper channel of exit be wilfully closed, the *vis medicatrix naturæ* will make the most strenuous exertions to direct a vicarious current of nervous force and of transformed alvine *excreta* towards the other excretory organs—skin, kidneys, and lungs, and these may have not only their special duties to perform, and their special excretions to throw off, but may be unfairly treated and be disarranged in function by foreign matters, which, after re-absorption, have not had time to undergo the requisite transformation to adapt them to another excretory organ. . . . Few medical men can have been many years in practice without meeting with occasional instances, in which the fact of fæcal absorption has most unpleasantly impressed itself upon their nasal organs. In the emanations through the mouth the peculiarly offensive odor is of course not uncommon, but I have met with a few unmistakable and nauseating examples, in the case of both skin and kidney."

The use of water containing salts of lime has a constipating tendency.

"With reference to the constipating effects of constantly using water loaded with salts of lime, several well-marked instances have come under my notice, where delicate ladies and children have invariably suffered when obliged, from temporary residence in calcareous districts, to use such water contrary to custom. The fæcal desiccation, the bullet-like scybalæ, intermixed with inspissated mucus sometimes streaked with blood—the tenesmus, straining, and difficulty in obtaining an evacuation — have been most tedious and painful, and have only ceased under proper management on giving up the use of the water."

On the other hand, a simple change of air and water will sometimes effect a cure.

Preparations containing iron and other tonics often prove too astringent.

In the treatment of constipation, we are told:—

"As in the case of drunkards, so with those who have abused opening medicines, we must be very cautious about suddenly stopping a long-continued excitant. We must judiciously allow 'a hair of the dog that bit him.' By reducing the quantity of the irritant, or by substitution of less potent drugs, or by a judicious combination of the two, with of course other well-directed treatment, we shall usually be enabled gradually to gain our point with but very slight inconvenience to the patient."

But, as a general rule, drugs should be dispensed with as soon as possible, and reliance placed on diet, exercise and enemata.

Want of space prevents our noticing farther a very interesting little monograph.

On Death from Cold. Physiological Studies upon the Effects of Congelation on the Animal Economy. By Luigi De Crecchio, Prof. of Medical Jurisprudence in the Royal University of Naples.

The principal conclusions arrived at by M. Crecchio, in his study of the effects of congelation upon the animal economy, are:

1st. It is impossible to fix a degree of cold, always and absolutely mortal. The degree at which death takes place depends upon the particular and individual circumstances of the special case.

2d. Cold acts by contracting the smaller vessels and by forcing the blood accumulated in them into the larger ones, thus producing anæmia of the frozen part. Occasionally, however, and especially when the action of the cold is not continuous, the vessels dilate through loss of their contractility, and the blood they contain is arrested and the part assumes an obscure red or bluish color.

3d. Blood freezes between a half and one degree below zero (centigrade). Then it is of a vermilion color. Coagulated blood, when frozen immediately, loses the property of coagulation.

4th. The alteration of the blood does not in reality take place during the freezing, but during the thawing process. It does not consist in the rupture of the cellwalls, and the escape of the contents of the globules by this means; their issue takes

place by exosmose, the walls of the globules remaining intact.

5th. Blood removed from the influence of the vessels and life, is altered by cold in a few seconds. If inclosed in the vessels, whether life exist or not, the alteration requires a longer time—a half-hour at least. Moreover, if two animals—the one living, the other dead—are exposed for the same period to congelation, the alteration in the blood will always be greater in the one that was dead before the experiment.

6th. The bloodvessels, it would seem, have the faculty of protecting, up to a certain point, the integrity of the globules against the action of cold; for while blood, frozen immediately after its withdrawal from the vessels, becomes altered, icicles of that fluid taken from the vessels and allowed to thaw, under the microscope present the globules in the normal state.

7th. Freezing and thawing, whether they take place gradually or very rapidly, produce an alteration of the blood always identical in every respect.

8th. The degree of cold may be sufficient to produce paralysis of the part, and yet not suspend the circulation, at least in vessels of a certain calibre. The arrest of circulation in these latter, is rather the consequence of the action produced upon enervation than the direct and immediate result of the freezing.

9th. Parts frozen are no longer susceptible of electric stimulus; they are in a state of gangrene. An animal that is frozen, dies.

10th. Partial freezing is fatal, when the part frozen is not separated from the rest of the body—not because the blood altered by the cold enters the current of circulation and there causes a sort of infection, but because the materials resulting from the gangrene are absorbed and produce death.

11th. Complete or incomplete freezing kills by congestion, more or less grave, of the internal organs, or by producing stupor or paralysis of the nervous system—more frequently by the two causes combined.

12th. Cadaveric rigidity remains a long time after death from freezing.—*Archives de Physiologie Normale et Pathologique.*

Probable Case of Hermaphroditismus Lateralis.—The question whether hermaphroditismus lateralis actually exists, has not yet been decided, as there are no cases on record in which the presence of one ovary and one testicle in the same being could be proved by the microscope. The following case, however, may prove to be one of real hermaphroditismus lateralis.

Toward the end of last year, an *individuum* named Catharine Humann (she having been pronounced a girl by her attending midwife,) was received at the gynecological clinic of Wurtzburg, who had already attracted the attention of the medical profession for some time. Her parents are perfectly healthy, and no other malformation happened in the family. She passed the time of her infancy and childhood quietly, without having much desire to join either boys or girls in the plays customary at that age. As soon as she was able to work she was employed in the usual work, being equally skilful in handling the plough and the needle. In her twelfth year the external organs of generation began to be developed; the body, heretofore considered the clitoris, under the outer margin of which the urethra opened, became larger and thicker, the breasts also enlarged as in girls verging towards puberty. At the same time sexual emotions took place, her affections tending toward both sexes, although she seemed to prefer the female sex more. The preference for the latter increased after she began to have seminal emissions, caused, as she says, by dreaming of cohabiting with women. It may be here remarked that she also experienced the feeling of lassitude usually following these nightly emissions. She began, after her 16th year, to cohabit repeatedly with women, although she never had a full erection of the penis. After her 20th year, the functions of the female sex also became developed, for at that time a hæmorrhagic discharge first happened from the urethra, which, in the beginning, occurred at long intervals, until it finally returned regularly every three or four weeks, lasting several days each time, when it was considered by herself and others as a menstrual discharge on account of this regularity. She had also all the other symptoms of menstruation occurring before or during this period, a feeling of contraction in the abdomen, general lassitude, and greater sexual excitement. Her breasts also swelled at that time, while a fluid resembling colostrum exuded upon pressure. This symptom, however, ceased upon her 40th year.

Catharine Humann seemed, since the appearance of this hæmorrhagic discharge, to show herself more susceptible towards the caresses of men than before. Being in her native village considered a girl, wearing female clothing and having her breasts fully

developed, she was, like other girls, courted by the young men, and coitus was even attempted by several, although she did not possess even the trace of a vagina. Yet she always experienced a certain voluptuous feeling, followed by the discharge of a whitish fluid, without, however, an erection of the penis taking place.

The menstrual discharge from the urethra continued regularly every month, lasting from three to six days each time, up to her entrance into the Institute. It failed only during the whole time, after she had become thoroughly wet. In her 26th year, hair began to grow on her face, which she soon tore out, in order to avoid ridicule. All her other functions were perfect.

Catharine Humann is now 42 years of age. She wears female clothing, makes, however, the impression of a so-called masculine woman; her features, gait and voice are those of a man. Her head is normal, the hair is of black color and reaches to the shoulders. Several black and strong hairs are found upon her chin. Her neck and chest are of the male type, with the exception of the breasts, which are round and well formed like a woman's. The pelvis is also of the male shape, her limbs want the softness and roundness common to the female sex, every muscle can be traced distinctly as in man. The bones are strong and large.

The external organs of generation are in appearance of the male type. A well-shaped penis of medium size and thickness is at the usual place. It is not perforated, the fossa navicularis terminating in a not very deep cul de sac. The urethra issues on the lower surface, near the end of the glans penis, producing thereby moderate hypospadia. The glans penis and prepuce are otherwise perfectly normal; two tortuous folds run from the lateral margins of the latter towards the mons veneris. The prepuce is perforated in two places, a thread having been inserted for the purpose of performing an operation. She wanted to have all the parts removed, as in her present state she did not belong to either sex.

The scrotum contains on the right side a body resembling in every way a testicle; she feels the well known dull pain upon pressure, while the epididymis can be traced distinctly. The left side of the scrotum is shorter, and contains a body in which neither testis nor epididymis can be traced, and which is said to become thicker during an erection of the penis. A similar lobulated body lies in the left inguinal region. Their nature can of course only be ascertained after death.

Her pelvic cavity was examined very carefully through the urethra and rectum, but nothing abnormal was found which might indicate the presence of a uterine body.

Although it was already ascertained by a physician that a bloody discharge really issued from the urethra, she was placed under the strictest surveillance, in order to prevent her from practising any deception. Menstruation had ceased a few days before her reception into the Institute. The orificium urethra and surrounding parts were still bloody, while small clots of coagulated blood were attached to the hair. After eight days an evacuation of semen took place, as, according to her assertion, always happened at that period. This was examined under the microscope and found to be normal semen, containing moving spermatozoa, which established her ability of performing the male functions of generation. The bloody discharge from the urethra was observed at the usual time, preceded by all the symptoms as above described. The microscope proved it to be normal fresh human blood, mixed with mucus, as the menstrual blood generally is. These phenomena were twice observed during her stay in the gynecological Institute.—*Beitræge zur Geburtskunde und Gynækolologie* and *Am. Journal of Obstetrics.*

Amaurosis caused by Crowding of Teeth.—In this case (reported by Mr. Hancock in the *Lancet* of 1859, p. 80), a boy, aged eleven, whose sight had been previously unimpaired, found upon waking one morning that he was entirely blind. About a month afterward he was admitted to Charing-Cross Hospital, where it was discovered that his teeth were "much crowded and wedged together; the jaws, in fact, not being large enough for them." Accordingly two permanent and four milk molar teeth were extracted, and "on the same evening the boy could distinguish light from darkness, and on the following morning could make out objects. From this time his sight rapidly improved, and he was dismissed cured on the 28th (eleven days after), the only treatment beyond the removal of the teeth being two doses of aperient medicine."—*Guy's Hospital Reports.*

Mr. Nobel has brought out a preparation of nitro-glycerine said to be far safer, but quite as effectual as the ordinary substance.

Selections and Medical Items.

HOLT'S OPERATION FOR STRICTURE; DEATH FROM PYÆMIA EXHIBITING REMARKABLE FEATURES. Under the care of Mr. HAMILTON.—Although the treatment of stricture by Holt's method is now generally allowed to be a valuable addition to the surgery of this disease, still it cannot be denied that it is attended with some risk, and in the adoption of a practice which has so many strenuous advocates, the observation of unfortunate cases must afford a valuable lesson.

T. F., æt. 62, a pensioner, of dissipated habits, was constantly in the habit of coming to hospital with retention of urine, on exposure to cold or the commission of any excess. On some of these occasions considerable difficulty was experienced in passing a small catheter. A very tight stricture was found at the anterior part of the bulbous portion of the urethra. The difficulty of introducing instruments was frequently much increased by spasm, and the mucous membrane was always in an irritable condition. Having often expressed a desire for some permanent relief, it was determined to adopt the method of Holt. He was accordingly kept quiet in bed for some days, and the urethra dilated with cat-gut bougies, until Holt's dilator could be readily passed into the bladder. The operation was performed on Saturday, June 27th, the strictures having been burst. A catheter, No. 8 size, was passed into the bladder; the patient was treated with quinine and opium, as directed by Mr. Holt.

June 28th.—He has had some shivering during the night; he complains of severe pains in the lower limbs, with hyperæsthesia and partial loss of motor power; passes water freely and without pain; there is no tenderness or fulness in the perinæum; pulse 120, and feeble. Ordered wine and beef-tea.

29th and 30th.—Appears better, but still complains of soreness and complete loss of power in the lower limbs; no rigors or sweating; no tenderness in the perinæum.

July 1st.—Very much worse; the pulse at wrist scarcely perceptible; complains of pain and powerlessness of the lower extremities; tongue dry and brown; the surface of the body is covered with an eczematous rash, having a dark areola; the mental faculties are perfectly clear; he complains of irregular pains in the chest and abdomen. The respiration became very difficult some hours before death, which occurred at 10, P.M.

Autopsy, twelve hours after death.—The eczematous eruption still remains on the surface. The inferior wall of the urethra has been burst at the point of stricture into the corpus cavernosum. Some pus issued from the bottom of the fissure on pressure. The cavity of the bladder was small, but its coats immensely hypertrophied, with numerous sacculi leading off from it; the ureters were much dilated; the kidneys tolerably healthy; the surface of the lungs was thickly studded with an eruption identical with that on the surface of the body; the liver and other intestines were likewise spotted in a lesser degree; no deposit of pus could be discovered in any part; the muscular system seemed perfectly healthy; no abnormal appearance of the joints was discernible.

The features of this case are interesting in some respects. The fatal termination must be attributed to a form of systemic infection, but there are many peculiarities in the symptoms—the paralysis of the lower limbs, the sensibility of the skin and muscular pains, the absence of rigors, sweating, or delirium, the appearance of the eruption on the surfaces of the body and viscera, are all uncommon. There can be little doubt that pyæmia is the chiefest source of danger in this operation, and the occurrence of suppuration in such a structure as the corpus cavernosum must be a condition specially favorable for its development.—*Dublin Medical Press and Circular.*

OINTMENT OF LOGWOOD.—M. Desmartin has employed an ointment composed of equal parts of lard and ext. logwood, in removing the fœtid odors and bringing about a healthy action in sloughing and gangrenous wounds. In hospital gangrene it is said to act like magic.—*Canada Pharmaceutical Journal.*

MEDICAL DIARY OF THE WEEK.

MONDAY, 9, A.M., Massachusetts General Hospital, Med Clinic. 9, A.M., City Hospital, Ophthalmic Clinic.
TUESDAY, 9, A.M., City Hospital, Medical Clinic; 10, A.M., Medical Lecture. 9 to 11, A.M., Boston Dispensary. 10–11, A.M., Massachusetts Eye and Ear Infirmary.
WEDNESDAY, 10 A.M., Massachusetts General Hospital Surgical Visit. 11 A.M., OPERATIONS.
FRIDAY, 9, A.M., City Hospital, Ophthalmic Clinic; 10, A.M., Surgical Visit; 11, A.M., OPERATIONS. 9 to 11, A.M., Boston Dispensary.
SATURDAY, 10, A.M., Massachusetts General Hospital Surgical Visit; 11, A.M., OPERATIONS.

TO CORRESPONDENTS.—Communication accepted:—Chronic Nasal Catarrh.
Declined:—On Malformed Indian Child.

BOOKS AND PAMPHLETS RECEIVED.—Outlines of Physiology, Human and Comparative. By John Marshall, F.R.S., London. With Additions, By Francis G. Smith, M.D., Philadelphia.—Case of Excision of the Entire Scapula, &c. By Stephen Rogers, M.D., of New York.—The Materia Medica in its Scientific Relations. New Haven.—Uterine Catarrh frequently the Cause of Sterility. By H. E. Gantillon, M.D., Paris.

DIED,—In Paris, France, whither he had gone for the benefit of his health, Dr. A. B. Shipman, of Syracuse, N. Y., formerly Prof. of Surgery in La Port University. Dr. S. removed, in 1849, from Cortland, N. Y., to Syracuse, where he has since followed his profession, having for many years performed a large share of the surgical practice of the city and surrounding country. He entered the service during the late war, and was for some time in charge of a large military hospital.

DEATHS IN BOSTON for the week ending Saturday noon, October 24th, 110. Males, 59—Females, 51.—Abscess, 1—accident, 1—apoplexy, 1—inflammation of the bowels, 1—disease of the brain, 4—bronchitis, 2—burns, 1—cancer, 2—cholera infantum, 9—consumption, 16—convulsions, 1—croup, 3—cyanosis, 2—cystitis, 1—debility, 2—diarrhœa, 2—diphtheria, 1—dropsy of the brain, 2—drowned, 2—dysentery, 4—scarlet fever, 1—typhoid fever, 3—disease of the heart, 2—infantile disease, 8—intemperance, 2—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 8—marasmus, 3—old age, 4—peritonitis, 1—premature birth, 4—malignant pustule, 1—rheumatism, 1—scalded, 1—scrofula, 3—tabes mesenterica, 1—unknown, 8—whooping cough, 2.

Under 5 years of age, 48—between 5 and 20 years, 12—between 20 and 40 years, 24—between 40 and 60 years, 15—above 60 years, 11. Born in the United States, 76—Ireland, 26—other places, 8.